Oct. 20, 1931. E. DAVIS 1,828,102

PRESSING MACHINE ELEMENT

Filed April 25, 1929

Fig. 1.

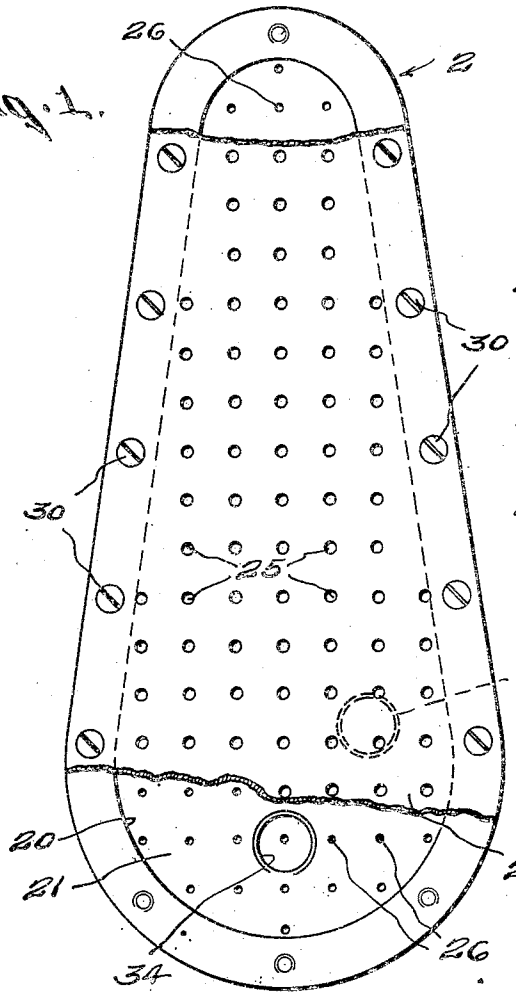


Fig. 2.

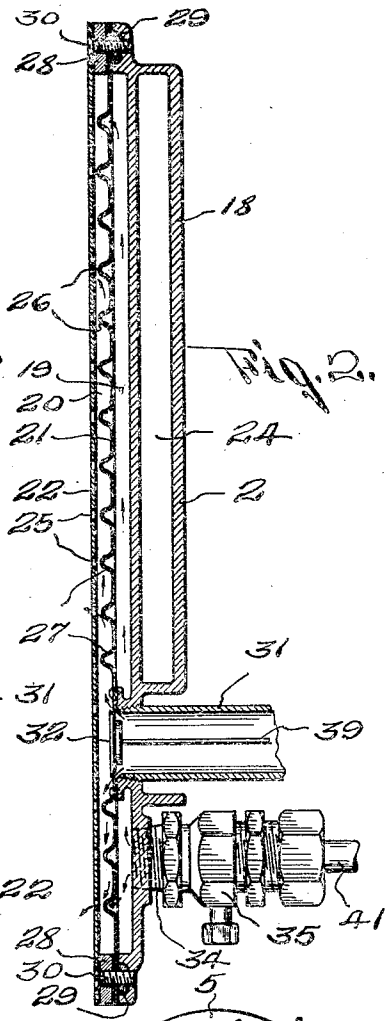


Fig. 3.

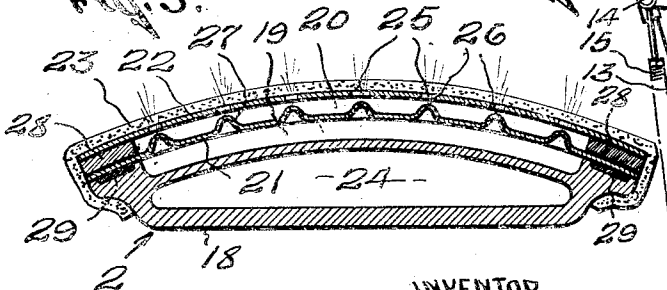
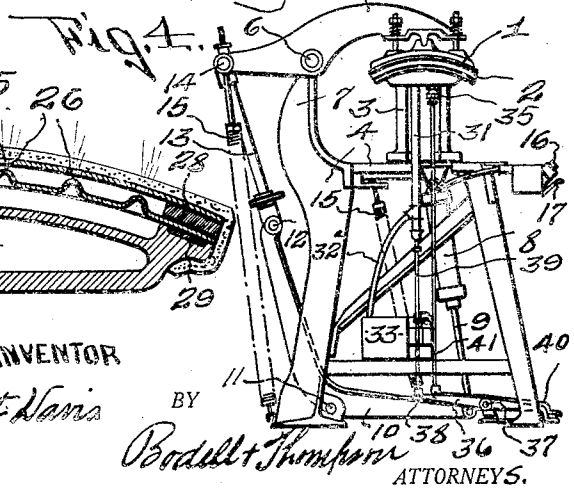


Fig. 4.



INVENTOR

Ernest Davis

BY

Bodell & Thompson

ATTORNEYS.

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UNITED STATES PATENT OFFICE

ERNEST DAVIS, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE PROSPERITY COMPANY INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK

PRESSING MACHINE ELEMENT

Application filed April 25, 1929. Serial No. 358,139.

This invention relates to pressing machines, as garment and laundry presses, and has for its object a particularly simple and efficient construction of one or both of the pressing elements by which a low pressure fluid, as air, can be blown through the pressing face thereof and the padding to dry the padding and the work thereon and by which a high pressure fluid, as steam, can be projected through the padding and the garment primarily to steam the garment without moistening the padding to any extent.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a plan view, partly broken away, and with the padding removed, of a pressing machine embodying one form of this invention.

Figures 2 and 3 are respectively, a lengthwise longitudinal and a cross sectional view of the pressing machine element shown in Figure 1, the padding being illustrated in Figure 3.

Figure 4 is a side elevation on a reduced scale of a pressing machine embodying my invention.

The pressing element here shown is another exemplification of the invention claimed in my copending application Ser. No. 358,140 for pressing machine element.

The machine here illustrated comprises a head 1 movable toward and from a buck 2, which is mounted upon a suitable goose neck or bracket 3 supported on a suitable frame 4. The head may be carried in any well known manner, it being here shown as carried at the front end of a yoke lever 5 pivoted at 6 between its ends to a standard 7 rising from the frame. The head is movable toward and from the buck by any suitable mechanism either foot or power operated. This mechanism is shown as connected to the rear arm of the yoke lever 5. The mechanism, here illustrated, comprises a cylinder 8 having a piston therein, the rod 9 of which is connected to one arm of an angle lever 10 pivoted at its angle at 11 to the base of the frame, and the other arm of which is pivoted at 12 to one end of a link 13, the other end of which is pivoted at 14 to the rear arm of the yoke lever. The piston is single acting, and the press is opened when the pressure in the cylinder is released by one or more counter-springs 15. The flow of motive fluid as air to and from the cylinder is controlled by any valve means operated by manuals as push buttons 16 and release lever 17.

The pressing element or buck 2 is the element provided with my invention and it comprises a body 18 provided with inner and outer chambers 19 and 20 which are separated by a partition 21, the outer or top wall 22 of the outer chamber 20 forms the pressing face of the buck. It is usually covered with a suitable padding 23. The body 18 is also formed with an internal heating chamber 24 for a heating medium as steam from any suitable source. The wall 22 is provided with comparatively large perforations 25 throughout its area so that the wall or plate 22 is foraminous. The partition 21 is formed with jet openings 26 which are smaller than the perforations 25 but alined therewith and spaced apart therefrom. These jet openings are provided at the apices of bosses or nipples 27 which project into the chamber 20.

In the illustrated embodiment of my invention, there is a jet opening 26 alined with each perforation 25, although the jet openings may be alined with only a portion of the perforations 25. In the buck here illustrated, the body 18 is recessed to form the chamber 19 and the partition 21 is a plate overlying the open side of the chamber 19 with its margins lapping the marginal edges of the body 18 and the chamber 20 is formed by the plate 22 and the partition 21 and spacers 28 between the margins of the top plates 22 and the partition 21. A suitable gasket 29 is interposed between the margin of the plate 21 and the marginal edge of the body 18. The plate 22, partition 21 and body 18 are held in position by suitable screws 30.

The padding 23 is held in position in any well known manner.

The chamber 20 is for receiving air at low pressure and the chamber 19 for steam at comparatively high pressure. The holes 25 are large enough to permit the proper flow of low pressure air through the padding 23 and the work thereon. Such holes are too large for the proper projecting of steam. If these holes 25 were used as jets through which to blow steam their large size would cause the velocity of the steam to be so low that it would distribute throughout the padding, instead of blowing through the padding against the work in the desirable manner. To obtain high velocity through the holes 25 it would be necessary to use steam at a very high and impractical pressure for pressing machines. If the steam is blown through jets located below, and in line with, the holes 25 these holes are large enough so as not to interfere with the free flow of steam from the jets. The jet openings for blowing steam will be described later.

The air is supplied to the chamber 20 in any suitable manner through an intake pipe 31 having a normally closed control valve 32 therein, this pipe extending through the bottom of the chamber 19 and being connected by a branch 32^a to the outlet of a blower 33, the blower being actuated in any suitable manner.

It is immaterial from what source the air is supplied. In fact, with sufficiently hot dry steam, the air would be caused to pass through the padding and the work thereon by blowing steam through said openings so that the air is drawn out by an ejecting action through the perforations 25 by the injector action of the jets of steam through the jet openings 26 and the perforations 25.

In this case, no blower would be necessary, it would be merely necessary to provide the chamber 20 with an inlet passage for the outer air.

Steam is supplied to the chamber 19 through a suitable pipe 34 having a normally closed valve therein located in the casing 35, the pipe 34 opening into the chamber 19 through the bottom thereof.

The valve 32 in the air pipe is operated by the operator and, as here shown, it is operated by a pedal 36 pivoted at 37 to the base of the frame and connected at 38 to the lower end of the valve rod 39. The steam valve in the casing 35 is operated by a similar pedal 40 connected to the valve rod 41.

In operation, when the pedal 36 is depressed, air will flow to the chamber 20, through the perforations 25, the padding 23, and the work thereon, and when the pedal 40 is depressed, the steam under comparatively high pressure will flow to the chamber 19 into the hollow nipples 27, out through the fine jet openings 26, through the perforations 25, through the padding, and the work thereon.

As before pointed out, perforations 25, which are large enough for the ready flow of air, are too large for projecting steam except when at a prohibitive or impractical pressure, through the padding and avoiding distributing the steam through the padding. The relatively fine jet openings 26 cause the steam to be projected with sufficient force to penetrate the padding without spreading out to any material extent through the padding. Also, the holes 26 are too fine to permit the outlet of the water of condensation so that the condensation is trapped in the chamber 19 where it is evaporated from the heat of the chamber 24.

What I claim is:

1. A pressing machine element including a body formed with outer and inner chambers having a common partition, the outer wall of the outer chamber being the pressing face of said element and having perforations therethrough, the partition separating the chambers being provided with jet openings in line with some of the perforations of the outer wall, and means for supplying air to the outer chamber and steam to the inner chamber.

2. A pressing machine element including a body formed with outer and inner chambers having a common partition, the outer wall of the outer chamber being the pressing face of said element and having perforations therethrough, the partition separating the chambers being provided with jet openings in line with some of the perforations of the outer wall, the perforations being larger than the jet openings, and means for supplying air to the outer chamber and steam to the inner chamber.

3. A pressing machine element including a body formed with outer and inner chambers having a common partition, the outer wall of the outer chamber being the pressing face of said element and having perforations therethrough, the partition separating the chambers having bosses extending into the outer chamber and formed with jet openings opening through their tops and alined with some of the perforations of the outer wall of the outer chamber, and means for supplying different fluids to the chambers.

4. A pressing machine element including a recessed body portion; a partition overlying said recess thereby forming a chamber; a plate, having perforations therethrough and a pressing face formed on one side thereof, mounted on the body portion in spaced apart relation to the partition thereby forming a second chamber, said partition being formed with jet openings aligned with some of the perforations of the plate and spaced apart therefrom; and means for supplying different fluids to the chambers.

5. A pressing machine element including a recessed body portion; a partition over-

lying said recess thereby forming a chamber; a plate, having perforations therethrough and a pressing face formed on one side thereof, mounted on the body portion in spaced apart relation to the partition thereby forming a second chamber; hollow projections formed on the partition, said projections extending into the second chamber and formed with jet openings aligned with some of the perforations of the plate; means for supplying steam to the first mentioned chamber and air to the second chamber.

6. In a pressing machine, a pressing element formed with a recessed body portion; a perforated plate overlying the open side of said recess and secured to the body portion; a partition mounted in the recess of the body portion and dividing the recess enclosed by the plate into inner and outer chambers, said partition being formed with jet openings therein located in line with some of the holes in the perforated plate.

7. In a pressing machine, a pressing element formed with a recessed body portion; a perforated plate overlying the open side of said recess and secured to the body portion; a partition mounted in the recess of the body portion and dividing the recess enclosed by the plate into inner and outer chambers, said partition being formed with jet openings therein, said jet openings being of smaller size than the holes in the plate and located in line with some of the holes in the plate.

8. In a pressing machine, a pressing element formed with a recessed body portion; a perforated plate overlying the open side of said recess and secured to the body portion; a partition mounted in the recess of the body portion and dividing the recess enclosed by the plate into inner and outer chambers, said partition being formed with projections extending toward the plate and located in line with some of the holes in the plate and having jet openings therethrough in line with some of the holes in the plate.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga and State of New York, this 18th day of April, 1929.

ERNEST DAVIS.